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Research

Evaluation Of Knowledge And Awareness Among Undergraduate Dental Students Regarding Anti Coagulation Therapy Of Patients Undergoing Dental Extractions

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Abstract

This study investigates dental students about awareness regarding anticoagulation therapy of patients undergoing dental extractions. Managing patients under anticoagulation therapy is quite challenging for dental professionals, which requires maintaining balance between minimizing and preventing bleeding risks and thromboembolic events. Dentists are still confused about whether to stop anticoagulants during extractions or to practice local hemostatic measures and closely monitor patient's international normalized ratio (INR) values. A cross-sectional survey was conducted among 200 undergraduate dental students, focusing on their level of understanding of common anticoagulant drugs, their risks and mainly management protocols during dental procedures. The results indicated moderate understanding among students regarding anticoagulation therapy, while their knowledge on specific protocols and drug interactions was limited, with significant gender and study year based variations in response to specific survey items. A total 200 students took part with female 66.5% and male 33.5%. Age of participants ranges from 19-25. In this study females have more knowledge than males and interns have more knowledge followed by IV BDS students followed by III BDS students. To identify student's awareness of the clinical implications of anticoagulants use in patient's undergoing dental extractions. To determine student's familiarity with current clinical guidelines and protocols for managing patient's on anti-coagulants who needs dental extractions.

Keywords: Anticoagulation therapy, Thromboembolic events, Direct oral anticoagulants, Warfarin, Drug Interactions.

INTRODUCTION

Anticoagulation therapy is commonly prescribed for patients at a risk of thromboembolic events, such as those with atrial fibrillation, deep vein thrombosis. While the anticoagulation therapy reduces the risks of complications, they also might increase the likelihood of profuse bleeding, especially during invasive procedures such as dental extractions. Managing such patients requires proper and meticulous attention regarding the risks of excessive bleeding and thromboembolic events.

Vitamin-K Antagonists(VKA's) and New Oral Anticoagulants(NOAC) or Direct Anticoagulants(DOAC) are the two main classes of Anticoagulants. The most commonly used VKA's are Warfarin and Ecenocoumarol whereas DOAC's include Dabigatran, Rivaroxaban, Apixaban, Endoxaban and Batrixaban. Previously, dentists used to prefer discontinuing Oral Anticoagulation therapy for a few days to reduce the risk of post-operative bleeding, but this might also result in thromboembolism and ischemic stroke. Minor dental surgeries such as Tooth Extractions are associated with a low risk of Bleeding which can be managed with local hemostatic agents. To date, dentists are perplexed about whether to discontinue Anticoagulants during extractions or should instead focus on careful monitoring of patient's International normalised Ratio (INR) levels and employing local hemostatic measures. A typical target INR range is 2.0-3.0 for most indications, though it can vary depending on the patient's condition. During any dental procedure such as extractions, if the INR is too high, there maybe increased risk of bleeding, and temporarily adjusting the warfarin dosage of discontinuing might help but for procedures with a high bleeding risk, we must use local hemostatic measures. The argument to stop anticoagulants fewdays prior to their dental procedure is to prevent potential bleeding while on the other side, the argument to continue with such medication is to concentrate more on providing careful monitoring of patient's International normalised Ratio(INR) and the use of local hemostatic agents. Regular monitoring of the International normalised Ratio(INR) is required to maintain therapeutic efficacy while minimizing the risks of bleeding. Besides, VKAs are susceptible to many drug to drug and drug to food interactions, necessitating careful dosage adjustments and close monitoring. Discontinuing oral anticoagulants three days before the procedure is mostly preferred.

Applying Direct pressure with sterile gauze is the initial step in achieving hemostasis during dental procedures. Local hemostatic agents such as tranexamic acid mouthwash, oxidised cellulose, gelatin sponge and sutures will reduce bleeding. Tranexamic acid mouthwash, in particular, has been showing to effectively reduce bleeding in dental procedures. These agents work by promoting clot formation and stabilizing the clot at the site of bleeding.

For patients requiring dental procedures and with significant thromboembolic events, discontinuation of Warfarin could produce fatal consequences. Appropriate preoperative assessment of the patient's medication should always be considered to provide optimal care. For most patients undergoing single tooth extractions, the possibility of potential thromboembolic events if anticoagulant therapy is discontinued, clearly outweighs the risk of prolonged bleeding. If a patient on warfarin experiences severe bleeding, Vitamin-k can be administered to reverse the anticoagulant effect, along with the clotting factor concentrates if needed. Fresh frozen plasma or prothrombin complex concentrates can also be given in severe cases. Inspite of the growing importance of anticoagulation therap in this modern dental world, there is limited research exploring the awareness and preparedness of dental students regarding these therapies.

This study aims to assess the level of knowledge and awareness among dental students about the management of patients on anticoagulation therapy. In this study, we mainly focused on undergraduates regarding their practical knowledge and management in such conditions. Dental students, being the future providers of dental care need to be adequately prepared to recognize the challenges posed by anticoagulated patients and manage these situations carefully.

METHODOLOGY

A) Study design and area: A cross sectional study was carried out at tertiary care teaching hospital Khammam.
B) Study population: The health care students including those of III, IV, Interns year and interns who responded to the online questionnaire sent through social media.
C)Study Instrument: A self administered questionnaire was designed based on knowledge attitude and practice had total 15 questions and through offline forms pro link. Each participant has to fill their demographic data like Name, age, and year of study. Participant has to select one option from the answers provided against questions the questions were based on knowledge and awareness regarding milk and dairy products among dental students.
D) Pilot study: A pilot study was conducted on a group of students to assess the validity and reliability of study.
E) Sampling method: The sampling method used is convenience method.
F) Inclusion criteria: The students who were interested in study and who are willing to participate.
G) Exclusion criteria: students who are not willing to participate are excluded.
H) Organizing the study: The purpose of study was explained in short note participants were asked to select one option from the answers provided against the questions.

I) Statistical analysis: Data from the filled questionnaire was conducted in a tabular form in an excel worksheet and evaluated for analysis. The analysis was performed by SPSS version 29.

RESULTS

A total 200 students took part with female 66.5% and male 33.5%. Age of participants ranges from 19-25years. In this study, females have more knowledge than males While, Interns have more knowledge followed by fourth year students followed by Third year students.

Descriptive Statistics

Age

	N	Minimum	Maximum	Mean	Std.Deviation
Age	200	18	25	21.89	1.034

Gender

	Frequency	Valid Percent
Male	67	33.5
Female	133	66.5
Total	200	100.0

Year of study

	Frequency	Percent
III BDS	48	24.0
IV BDS	74	37.0
INTERNS	78	39.0
Total	200	100.0

Distribution and comparision of responses based on gender:

Item	Response	Males		Females		Chi-square value	P value
		n	%	n	%		
Q1	1	6	8.9	12	9.0	7.315	0.007
	2	58	83.5	112	84.2		
	3	3	4.4	6	4.5		
	4	0		3	2.2		
Q2	1	8	12.6	16	21.6	2.750	0.432
	2	23	33.3	49	36.7		
	3	32	42.5	65	40.5		
	4	4	11.2	3	8.8		
Q3	1	45	40.7	83	59.3	1.920	0.589
	2	7	29.2	17	20.8		
	3	16	47.1	18	22.9		
	4	6	42.9	15	17.1		
Q4	1	16	33.3	26	66.7	0.697	0.874
	2	23	36.4	65	63.6		
	3	25	39.1	45	60.9		
	4	3	42	7	58		
Q5	1	1	2.5	7	7.5	2.930	0.402
	2	8	7.1	24	32.9		
	3	6	6.4	9	60		
	4	52	86.4	102	59.6		
Q6	1	51	42.6	109	57.4	3.720	0.06
	2	5	21.7	18	18.3		
	3	6	22.4	3	6.3		
	4	5	20.3	3	6.3		
Q7	1	54	78.0	111	60.8	1.489	0.475

	2	11	20.7	16	29.3		
	3	1	1.2	0	0		
	4	1	1.2	6	12.1		
Q8	1	38	56.7	76	57.1	3.980	0.05
	2	2	2.9	10	7.5		
	3	13	19.4	15	11.3		
	4	14	20.8	32	24.0		
Q9	1	43	71.2	104	68.8	0.671	0.413
	2	17	21.6	13	18.4		
	3	5	6.4	13	18.4		
	4	2	3.7	3	2.3		
Q10	1	7	13.6	15	15	7.241	O.065
	2	53	62.9	97	57.1		
	3	7	13.6	6	16.2		
	4	1	3.3	15	25.6		
Q11	1	2	3.3	13	6.7	2.655	0.448
	2	5	6.4	14	9.6		
	3	9	30	21	20		
	4	51	61.8	85	58.2		
Q12	1	2	2.9	32	24.0	6.418	0.003
	2	49	73.1	73	54.8		
	3	8	11.9	15	11.2		
	4	8	11.9	13	9.7		
Q13	1	42	32.8	83	57.2	2.311	0.510
	2	6	16.1	17	13.9		
	3	11	29.3	17	13.9		
	4	8	11.2	16	12.8		
Q14	1	36	47.5	97	62.5	0.221	0.974
	2	15	28.5	8	11.5		
	3	7	16.8	12	13.2		
	4	9	18.2	16	18.8		
Q15	1	3	4.4	19	14.2	1.793	0.05
	2	5	7.4	7	5.2		
	3	8	11.9	10	7.5		
	4	51	76.1	97	72.9		

P≤0.05 is statistically significant

Distribution and comparision of responses based on year of study:

Item	Response	III BDS		IV BDS		INTERN		Chi-value	P-value
		n	%	n	%	n	%		
Q1	1	5	10.4	4	5.4	0	0	3.998	0.06
	2	39	81.2	41	55.4	75	96.1		
	3	3	6.2	2	2.7	2	2.5		
	4	1	2.0	1	1.3	1	1.2		
Q2	1	6	24	1	40	9	36	28.554	0.06
	2	3	16.7	2	22.2	33	61.1		
	3	2	20	1	10	7	70		
	4	37	38.8	70	43.1	29	18.1		
Q3	1	31	39.3	58	41.4	27	19.3	21.445	0.08
	2	4	16.7	6	25	14	58.3		
	3	12	35.3	2	35.3	10	29.4		
	4	1	7.1	8	57.1	27	35.7		
Q4	1	5	27.8	7	38.9	28	33.3	27.128	0.246
	2	2	9.1	6	27.3	14	63.6		
	3	7	30.4	6	26.1	10	43.5		
	4	34	39.3	55	43.3	26	17.3		

Q5	1	3	6.2	4	5.4	2	2.5	12.714	0.048
	2	5	10.4	6	8.1	7	8.9		
	3	2	4.1	12	16.2	9	11.5		
	4	38	79.1	52	70.2	50	64.1		
Q6	1	33	74.7	43	76.5	47	74.7	2.257	0.323
	2	7	10.4	7	10.4	9	9.1		
	3	5	7.6	8	11.6	14	17.6		
	4	3	5.4	6	9.6	8	8.6		
Q7	1	34	64.6	44	56.7	47	65.4	2.712	0.607
	2	8	29.6	10	14.7	9	13.3		
	3	1	1.8	6	12.7	14	18.7		
	4	5	13.5	14	18.6	8	8.6		
Q8	1	9	37.5	10	41.7	9	20.8	34.979	0.06
	2	1	8.3	2	16.7	9	75		
	3	9	25	6	21.4	55	53.6		
	4	29	51.9	56	29.6	5	18.5		
Q9	1	41	86.1	60	71.2	44	72.7	14.651	0.08
	2	3	5.8	4	11.1	12	13.2		
	3	3	4.7	6	15.6	14	15.4		
	4	1	2.4	4	7.5	8	7.5		
Q10	1	7	35	7	35	6	30	12.306	0.055
	2	33	37.1	59	40.6	51	22.4		
	3	1	7.7	6	46.2	6	46.2		
	4	2	20	2	20	6	60		
Q11	1	6	40	5	33.3	4	26.7	33.408	0.076
	2	3	13.6	3	13.6	16	72.7		
	3	7	23.3	12	40	11	36.7		
	4	37	39.5	54	43.8	45	17.1		
Q12	1	1	9.1	4	36.4	6	54.5	14.996	0.474
	2	39	38.6	53	41.2	53	20.3		
	3	8	25.8	13	41.9	10	32.3		
	4	5	27.8	4	22.2	9	50		
Q13	1	34	37.2	59	40.7	52	22.1	14.977	0.748
	2	5	21.7	8	34.8	10	43.5		
	3	6	21.4	9	32.1	13	46.4		
	4	8	47.1	8	47.1	1	5.9		
Q14	1	8	18.8	7	43.8	28	37.5	17.924	0.006
	2	3	23.1	1	7.7	9	69.2		
	3	8	42.1	9	47.4	2	10.5		
	4	29	35.8	57	40.6	39	23.6		
Q15	1	6	12.5	16	21.6	28	35.8	13.807	0.032
	2	4	8.3	1	1.3	7	8.9		
	3	6	12.5	7	9.4	5	6.4		
	4	32	66.2	50	67.5	38	48.7		

P≤0.05 is statistically significant.

DISCUSSIONS

The results of this study indicates significant disparities in knowledge and awareness among undergraduate dental students regarding anti- coagulation therapy of patient's undergoing dental extractions.When responses were analysed by gender, females demonstrated higher levels of correct answers than males with a correct response rate of 66.5% and 33.5% respectively.By evaluating various aspects such as awareness of anticoagulation, knowledge of commonly prescribed anticoagulants, familiarity with guidelines, and understanding of the impact on dental procedures and wound healing, and awareness of potential complications and side effects, the study sought to identify areas where educational interventions might be needed. The results of the study provide valuable insights into the knowledge of dental students in this specific area. Overall, the

findings indicate a reasonably good level of awareness and understanding among the participants but also highlight areas that require further attention.

CONCLUSION

The study concludes that dental professionals are generally aware of and follow guidelines regarding anticoagulation therapy well. Interdisciplinary task force groups comprising cardiologists and dentists should be formed to supervise the application of best practices in order to deliver high-quality care during complicated dental extractions in patients having co-morbidities. For the safe and efficient treatment of such patients, dental education and regulatory organizations must establish updated local rules, plan formal training sessions, and givestudents and dentists the requisite knowledge.The findings highlight both areas of strength and areas that require improvement in their understanding of anticoagulation therapy. These results can inform the development of targeted educational interventions and reinforce the importance of ongoing education and training in this critical aspect of dental care.

REFERENCES

1. Manfredini M, Poli PP, Creminelli L, Porro A,Maiorana C, Beretta M. Comparative risk of bleeding of anticoagulant therapy with vitamin K antagonists (VKAs) and with non-vitamin K antagonists in patients undergoing dental surgery. J Clin Med. 2021; 10(23): 5526.
2. Tokarek T, Homaj M, Zabojszcz M, Dolecka- lusarczyk M, Szotek M, Sabatowski K, Loster B, Bartu S, Siudak Z. Knowledge on the guideline-recommended use of antiplatelet and anticoagulant therapy during dental extractions: a contemporary survey among Polish dentists. Kardiol Pol (Polish Heart Journal). 2020;78(11):1122-8.
3. Nisi M, Carli E, Gennai S, Gulia F, Izzetti R.Hemostatic agents for the management of bleeding risk associated with oral anticoagulant therapy following tooth extraction: a systematic review.Applied Sciences. 2022 Oct 31;12(21):11017.88
4. Wójcik S, Mocny-Pacho ska K, Bisch-Wójcik S,Balicz A, Morawiec T. Perioperative management of dental surgery patients chronically taking antithrombotic medications. Int J Environ Res Public Health.2022;19(23):16151.https://doi.org/10.3390/i jerph192316151
5. Adel Alenazi. Dental management of patients on chronic oral anticoagulants: a review. J Res Med Dent Sci . 2020 8(1): 120-4.